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The Fossilized Giant Fish *Leedsichthys problematicus* (Woodward, 1889): Congruency across natural and biblical history

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Skeptics sometimes claim: "There is no fish big enough to swallow a person, so Jonah must be a fable." However, despite the presumption of those who rail against the Bible, scientists have uncovered evidence that shows the Bible is indeed trustworthy. As to the claim that there is no fish big enough to swallow a person, we now know otherwise.

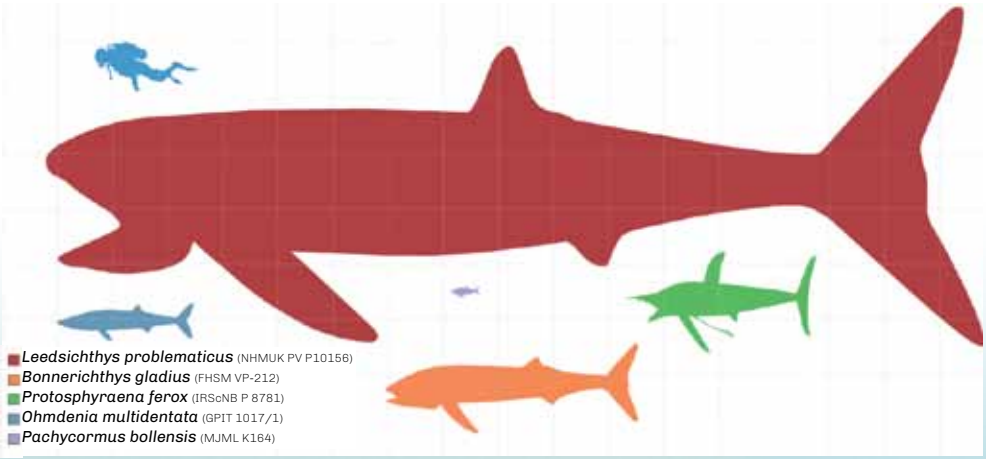
Leedsichthys problematicus (NHMUK PV P10156)
Bonnerichthys gladius (FHSM VP-212)
Protosphyraena ferox (IRScNB P 8781)
Ohmdenia multidentata (GPIT 1017/1)
Pachycormus bollensis (MJML K164)

Figure 1. *Leedsichthys problematicus*' size compared to humans and other fish. https://en.wikipedia.org/wiki/Leedsichthys

Natural History

Leedsichthys problematicus (Woodward, 1889) is an enormous fish (Figure 1) identified from 70 isolated fossilized specimens unearthed in England, France, Germany, Switzerland, Chile, and Argentina. *Leedsichthys*' classification is as follows: Kingdom Animalia, Phylum Chordata, Superclass Osteichthyes (bony fishes), Class Actinopterygii (ray-finned fishes, Figure 2), Infraclass Teleostai, Order Pachycormiformes, and Family Pachycormidae (thick-bodied). It possessed a massive head, large,

Figure 2. Examples of fish in the class Actinopterygii (ray-finned fishes). https://en.wikipedia.org/wiki/Actinopterygii

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Cicadas and Mathematics

by Don DeYoung, PhD

Overhead, underfoot, they abound
And they have been 17 years in the ground.

These lines from poet Ogden Nash commemorate the periodic cicadas. The noisy insects are the size of a jelly bean with a name derived from Latin meaning tree cricket. There are more than 3000 cicada species living worldwide, both annual and periodic varieties. The latter group is divided into many *Broods,* with *Brood X* emerging by the billions in 2021. Other *Brood X* emergence years include 1987, 2004 and 2038.

The cicada life cycle begins with eggs deposited on tree branches. The nymphs hatch, fall to the ground and burrow downward as deep as 8 feet. There they spend years maturing, nurtured by sap from tree roots. Eventually they surface collectively and climb nearby trees where they molt and leave their exoskeletons or shells behind. Swarms of males make 100 decibels of clicking-buzzing racket to attract females. The adults live for 2-6 weeks and the cycle continues.

Two common emerging times are 13 and 17 years, some of the longest insect lifespans. These are prime numbers which are not evenly divisible by any other whole number. The reason for this mathematical cycle is a mystery. One suggestion is that predators with a shorter life cycle cannot 'synch up' with the cicada emergence. That is, for example, if cicadas had a 6 year cycle, predators with a 3 year cycle might eventually 'learn' to feast and multiply during every other cycle. Alternately, it might be suggested that cicadas choose the 13 or 17 year waiting period to be a less reliable food source for predators who presumably cannot count that far. Another unanswered question is why are there no cicada cycles using the prime numbers 7 or 11 years?

Opportunistic cicada killer wasps do take advantage of cicada appearances. These large wasps sting adult cicadas and drag them into underground burrows. There, the immobilized cicada becomes food for killer wasp larva.

Some internal molecular clock or external trigger causes the periodic cicadas to emerge across the eastern U.S. Their loud sound is produced by flexing tympanic membranes like a drum, resonating with body cavities. The frequency of cicada sound broadly varies from 20-15,000 hertz.

Drawing of a 17-year cicada, *Magicicada*, Robert Evans Snodgrass, 1930

Cicadas are harmless and certainly not a plague. Instead, they serve to aerate the soil and add nitrogen. They also prune weak tree branches and are a food source for birds. They are living fossils, appearing in Jurassic period rock layers conventionally dated at 200 million years. In truth, cicadas are a fascinating part of creation, most likely created on Day Five or Six and singing their song ever since. CM

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Fossilized Giant Fish

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elongate pectoral fins, tall vertical tail fins and gill arches lined with gill rakers (Figure 3). The fossilized holotype specimen consisted of 1,133 pieces, which were predominantly fin-rays. A holotype is a single specimen that represents a distinct species in the library of life and is utilized in the naming and description of a new species.

This fish's scientific name means problem (*problematicus*) fish (ichthys) discovered and curated by the amateur paleontologist Alfred Nicholson Leeds. The fossilized remains were a quandary to identify because they were extremely fragmented and difficult to deduce structurally from several different specimens worldwide. Initially, the first fossilized remains uncovered were misidentified as originating from a stegosaurian dinosaur. The large skull bones of this fish were interpreted to be the back plates of the stegosaurid *Dacentrurus*, which was originally known as *Omosaurus*.

Remnants of *Leedsichthys* are sparse in the fossil record, causing scientists to

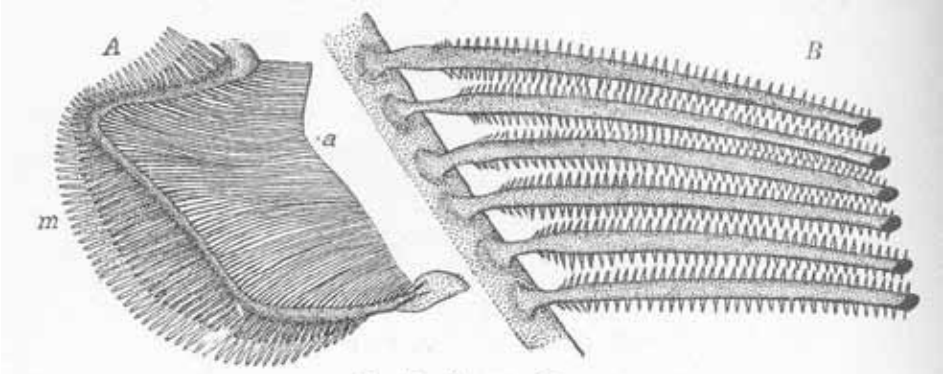

Fig. 45. Gill of Menhaden.
A. First gill-arch, natural size. *a*. Gill-rakers. *m*. Branchiæ, or gill proper. B. Six gill-rakers, enlarged 50 times, showing projecting rows of hooks.

Figure 3. Anatomical structure of gill rakers from the fish menhaden illustrated in B. (Illustration by Ichthyologist Hugh McCormick Smith, 1907). https://commons.wikimedia.org/wiki/File:FMIB_51375_Gill_of_Mehnaden.jpeg

hypothesize that the skeleton was comprised of both bone and cartilage. While cartilage can fossilize, it does not do so as readily as bone because it is a soft tissue. Fish living today are either mostly bone (the bony fishes-Osteichthyes) or cartilage (the cartilaginous fish-Chondrichthyes) (Figure 4). It is also possible many of the ossified bones of *Leedsichthys* were reabsorbed by other inner bones of the skeleton and then became hollow while the animal was alive. These hollow bones would not form fossils as easily after death and rapid burial.

Since no fossilized vertebrae have been found, scientists have had to estimate its length from the gill basket (the anatomical structure which supports the gills) (Figure 5). From this structure, the current estimated maximum length was determined to be sixteen meters (50 feet), the size of a train car. Tail bone fossils at the British Museum of Natural History gave an estimated size of 9 meters (29.5 feet), but this is likely a younger fish that

Figure 4. Left photo-largest member of Chondrichthyes- a whale shark. https://commons.wikimedia.org/wiki/File:Whale_Shark_and_Freediver.jpg, by Feefiona 123
Right photo-largest living member of Osteichthyes- the ocean sunfish. https://commons.wikimedia.org/wiki/File:GFNMS_--_Mola_Mola_(35221024103).jpg, by National Marine Sanctuaries

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did not reach its greatest length. Another indication this ancient fish was gigantic is that its gill rakers (filter-feeding apparatuses) (Figure 3) were measured to be 7.5 cm long. Most fish today possess gill rakers that are a few millimeters in length.

The growth rate of *Leedsichthys* was likely very slow, approximately 0.42 meters/year, based on counting the rings from fossilized gill rakers and lepidotrichia (Figure 6). Thus, at one year of age *Leedsichthys* was 1.6 meters long; from 19–40 years of age the fish was 8–16.5 meters in length. Fascinatingly, estimated growth rates of *Leedsichthys* agreed with those of extant basking and whale sharks, which are also planktonic, oceanic feeders.

Despite this fish's colossal size, it likely had several predators including *Metriorhynchus*, *Liopleurodon*, and *Pliosaurus rossicus*. It may have propelled itself through the water at 11 mph [17.7 km/h] to keep its blood oxygenated, but it would still be susceptible to predation. This is nearly four times faster than the living whale shark, which moves at a speed of 3 mph [4.8 km/h].

Darwinists pinpointed *Leedsichthys* as a Callovian Age-Middle Jurassic (164.5-167.3 mya) fish discovered from the ancient marine sedimentary rock of the Lower Oxford Clay of southeast England. Interestingly, despite this being marine sedimentary rock, it contains the fossilized remains of several different groups of land dinosaurs, as well as marine reptiles, marine invertebrates, and other bony fishes. Since this layer contains land dinosaurs and marine animals, it suggests all these organisms were rapidly buried and fossilized during the cataclysmic Flood recorded in the Bible and within innumerable other ancient worldwide texts. Secular geologists and paleontologists infer that the land

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Figure 5. Fossilized *Leedsichthys* gill basket, used to determine its maximum length (Liston et. al, 2013).

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dinosaurs were killed along the shore, floated due to decomposition, and were then carried out to the sea. Although this is possible, the former seems a more plausible mechanism for rapid burial and fossilization.

Biblical History

The biblical account of Jonah being swallowed by a large fish (Jonah 1:17) is not legend, but an actual miraculous event of history now supported by the discovery of *Leedsichthys* in the fossil record. Christians cannot logically dismiss this occurrence as myth because Christ described His death and resurrection in terms of what happened to Jonah (Matthew 12:39, 40). Jonah was in the fish's stomach for three days and nights, the same amount of time Jesus was in the tomb before He rose from the dead. If you believe in the death and resurrection of Christ, you must believe Jonah was swallowed by a great fish. Being swallowed by a ginormous fish was analogous to Jesus' death, while Jonah being spit out from the fish, obeying God, and going to Nineveh represented Jesus' resurrection. The Scriptures proclaim it was a large fish (Hebrew=*dag*); the Hebrew word for fish as food is the plural form: *dagim*. This word, in its various forms, is scattered throughout the Old Testament. The Hebrews did not eat whales because they were not kosher (cf. Leviticus 11:9-12; Deuteronomy 14:9-10).

If you look at the story of Jonah purely from a scientific perspective, it appears far-fetched because the entire account includes the supernatural and

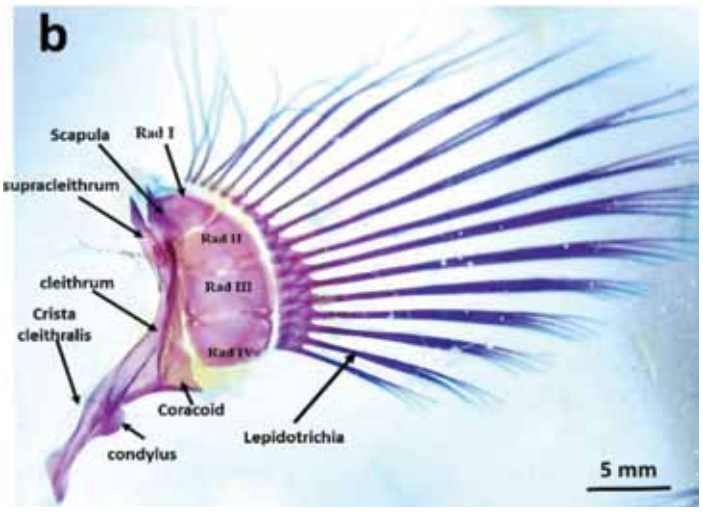

Figure 6. Fish lepidotrichia with skeletal staining (RA Putri and Sukiya, 2019).

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As it is Written: The Genesis Account Literal or Literary?

The literary framework hypothesis has steadily gained in popularity as people attempt to accommodate what they believe is the scientific facts of evolution. Within this framework, the timeline of creation is assumed to be strictly figurative or poetic, not historical. The author carefully guides the reader through a detailed understanding of the literary framework, tracing both its origin and its purpose. *As It is Written* demonstrates that Genesis 1 is not consistent with the teachings of the literary framework, rather it clearly presents the creation week as six, 24-hour days.

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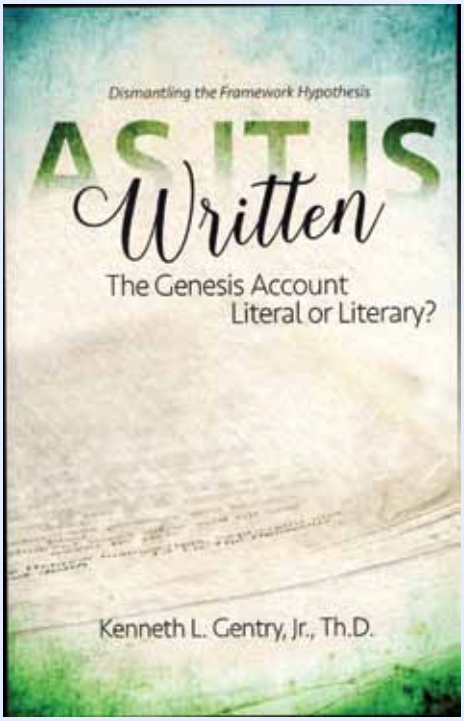

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not purely of the natural. First, God brings the great fish to Jonah to swallow him. Second, Jonah remains undigested despite the fact that he was in the fish's stomach for three days and nights. But, we know God is omnipotent (all powerful) and He can control the natural state of His creation and command it to move from the Atlantic Ocean to the Mediterranean Sea where Jonah was. Many fossilized remains of *Leedsichthys* have been uncovered in Europe near the Atlantic Ocean and the Mediterranean Sea borders Europe. In addition, God could control the chemistry of *Leedsichthys* and inhibit the digestive enzymes in its stomach, so it did not break Jonah down. It is also possible, *Leedsichthys* possessed a wide esophagus that could swallow a man whole, since sperm whales that are of a comparable size are naturally created with an expansive esophagus capable of swallowing a giant squid whole.

To conclude, *Leedsichthys* illustrates the limitations of our understanding of natural history and also that of biblical theology and history, which ultimately demonstrates both disciplines of study require tremendous faith, imagination, and extrapolation. Just because natural history falls under the category of science does not mean it is infallible in its interpretations of nature. It contains just as much mystery as that found within the historical miracles of the Bible.

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Research Matters

Summaries of Cutting-edge Research from *Creation Research Society Quarterly*

Summaries compiled by Jean K. Lightner, DVM, MS

It is crucial for creation research to investigate the world around us while engaging the current scientific literature and Scripture as we build the creation model in various scientific fields. CRS exists to support and publish such research. Only through high quality research can we equip Christians with strong, sound apologetic arguments that demonstrate the robustness of the creation model in understanding the world around us.

Numerical simulations and a biblical worldview

It is fun to ponder how various things in the world around us came to be. Genesis tells us about the origin of the universe and life on earth. It also provides some key historical details, including an account of the global flood. These provide an excellent foundation for understanding what may have happened in the past. However, like secular scientists, creationists make use of numerical simulations to try to understand details that are not discussed in the biblical text. The Winter 2021 issue of the *Creation Research Society Quarterly* (*CRSQ*) has two such articles.

The first article discusses how, based on seismic data, there are two regions in the lower mantle called large low-shear-wave velocity provinces, or LLSVPs. When they were first identified, they were called superplumes. Secular literature does not have a sound explanation for how these structures arose or why they display such low seismic speeds. Evan Navarro (2021) considers a creationist explanation: these features could have formed during rapid plate tectonic activity during the flood. Numerical simulation supports this hypothesis, and the young-earth timeframe allows their low seismic speed to be explained by high temperature and decreased density. LLSVPs are still deep in the mantle because a few thousand years is not enough time for them to rise to the surface.

In another article, Dr. Jake Hebert (2021) considers models for the ice sheets of Greenland and Antarctica. Currently, creationist models lack the sophistication and explanatory power of secular models. Dr. Hebert outlines the issues involved, then uses computer code and Vardiman's 1993 model to make initial estimates of annual thickness in Greenland's Camp Century ice core. He points the way to further research that can provide a robust creation-compatible model with predictive power.

Navarro, E.A. 2021. A catastrophic plate tectonics explanation for earth's large low shear velocity provinces (also known as superplumes). *CRSQ* 57:168-174.

Hebert, J. 2021. Using Vardiman's young-earth ice sheet model and a simple computer code to estimate annual layer thicknesses. *CRSQ* 57:175-185.

Biology, geology and the Bible

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Summaries

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The tuatara is a lizard-like reptile that is so unique that it is placed in a separate order: Rhynchocephalia. Is this an indication that it is from a different created kind? Using a molecular baraminology technique (k-mer signature), Dr. Matthew Cserhati (2021) clearly demonstrates that the tuatara is genetically discontinuous with lizards and other reptiles. Thus, stories of it sharing common ancestry with other reptiles do not have a sound scientific basis. More likely, it is descended from one of the different kinds of creatures that crawl along the ground, created by God on day 6 (Genesis 1: 24, 25).

How did the Grand Canyon form? This is still being debated by both secular and creation scientists. In the Winter issue of the *CRSQ*, Mike Oard (2021) discusses many of the views and issues involved, attempting to clarify his own position and clearly articulate problems he sees with the dam breach hypothesis. Illustrated with over a dozen figures to clarify points made in the text, this article will be of great interest to those interested in the natural history of the Grand Canyon.

Finally, it is critical to clearly understand the message of the Bible as it provides the foundation for understanding the world around us. The book of Genesis is divided into sections by the Hebrew word *tôlĕdôt*. This word is often translated "the generations of." Harbin (2021) examines each section defined by this term and the significance of the term. In his highly readable article, he points out that Genesis is written as a carefully crafted unit, and the phrase using *tôlĕdôt* lets the reader know "what became of" the subject (heavens and earth, or a person) of the previous section.

Cserhati, M. 2021. Baraminic classification of the tuatara (*Sphenodon punctatus*) among reptiles based on whole-genome k-mer signature comparison. *CRSQ* 57:200-205.

Oard, M.J. 2021. A dam breach unlikely for the origin of Grand Canyon. *CRSQ* 57:206-222.

Harbin, M.A. 2021. The *tôlĕdôt* structure of Genesis. *CRSQ* 57:223-233.

Continued creation research is made possible by the generous gifts (time, money and prayer) of our many supporters. Thanks to all who have contributed!

... If you call out for insight and cry aloud for understanding,
and if you look for it as for silver and search for it as for hidden treasure,
then you will understand the fear of the LORD and find the knowledge of God.
For the LORD gives wisdom, and from his mouth come knowledge and understanding.
Proverbs 2:3-6 NIV

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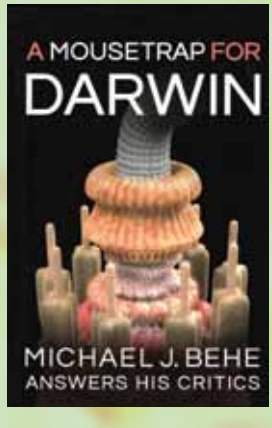
A MOUSE TRAP FOR DARWIN

by Michael Behe



Biochemist Dr. Michael Behe argues that much recent evidence, from the studies of "evolving" microbes to studies of mutations in animals, suggests that naturalistic evolution cannot accomplish the needed changes for universal common descent. Evolution's primary axiom of mutation and natural selection simply does not have the ability to build everything we find in contemporary biology. A Mousetrap for Darwin provides Dr. Behe's response to many of the most common criticisms of his previous writings and many of the current claims made by the evolutionist community.

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Praise: We thank God for all your prayers and support!

Prayer: Please continue to pray for the research projects of CRS (iDino and eKINDS) and the projects funded by our Society. We need God's guidance and direction as we seek to honor Him with high quality research. There are plenty of research questions that need to be addressed, so please also pray that God will raise up many younger researchers to carry creation research forward.

Thanks Again!

The Creation Research Society (CRS)

For nearly 60 years, CRS has pursued and supported original research verifying the creation model of origins as a means to reveal the Creator. Research is our middle name!

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